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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,211	08/16/2001	Mathrubootham Janakiraman	MS#172026.01 (5211)	2348

38779 7590 02/09/2007  
SENNIGER POWERS (MSFT)  
ONE METROPOLITAN SQUARE, 16TH FLOOR  
ST. LOUIS, MO 63102

EXAMINER
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NAWAZ, ASAD M

ART UNIT	PAPER NUMBER
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2155

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/09/2007	ELECTRONIC

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uspatents@senniger.com



### **DETAILED ACTION**

1. This action is responsive to the amendment filed on 11/16/06. Claims 1, 5, 10, 19, 20, and 21 were amended and claim 23 was newly added. No other claims have been amended, added, or canceled. Accordingly, claims 1-5, 7, 9-16, and 18-23 are pending.

#### ***Drawings***

2. The drawing submitted 9/16/01 have been reviewed and accepted.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1-5, 7, 9-16, and 18-23 recites numerous limitations in the claims such as “the video switching stream behavior” in claim 1 and “the client screen”, “the stream selection thread”, and “the time period” in claim 23 . There is insufficient antecedent basis for these limitations in the claims.

#### ***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-5, 7, 9, 19-23 are rejected under 35 USC 101. The claimed invention is directed to non-statutory subject matter. The language of claims raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or

machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

The applicant(s) claim “a computer readable medium” but does not define within the body of the claim the hardware in which the invention runs. Thus, absent recitation of the server or some other hardware, the claims are not limited to a tangible embodiment, instead being sufficiently broad to encompass software, per se.

The examiner encourages applicant to define within the claims the embodied features and limitations on a “tangible” computer readable medium such as hard drives, disks, and other hardware elements. An example of a proper format would be “a machine readable code” or “program code”... “stored on a tangible computer readable medium”.

Furthermore, Descriptive material can be characterized as either “functional descriptive material” or “nonfunctional descriptive material.” In this context, “functional descriptive material” consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of “data structure” is “a physical or logical relationship among data elements, designed to support specific data manipulation functions.” The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) “Nonfunctional descriptive material” includes but is not limited to music, literary works and a compilation or mere arrangement of data.

Both types of “descriptive material” are nonstatutory when claimed as descriptive material per se. Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the

function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a computer-readable medium, in a computer, on an electromagnetic carrier signal does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.”). Such a result would exalt form over substance. *In re Sarkar*, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978) (“[E]ach invention must be evaluated as claimed; yet semantogenic considerations preclude a determination based solely on words appearing in the claims. In the final analysis under § 101, the claimed invention, as a whole, must be evaluated for what it is.”) (quoted with approval in *Abele*, 684 F.2d at 907, 214 USPQ at 687). See also *In re Johnson*, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) (“form of the claim is often an exercise in drafting”). Thus, nonstatutory music is not a computer component and it does not become statutory by merely

Art Unit: 2155

recording it on a compact disk. Protection for this type of work is provided under the copyright law.

Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions. Computer programs are

Art Unit: 2155

often recited as part of a claim. USPTO personnel should determine whether the computer program is being claimed as part of an otherwise statutory manufacture or machine. In such a case, the claim remains statutory irrespective of the fact that a computer program is included in the claim. The same result occurs when a computer program is used in a computerized process where the computer executes the instructions set forth in the computer program. Only when the claimed invention taken as a whole is directed to a mere program listing, i.e., to only its description or expression, is it descriptive material per se and hence nonstatutory. Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and USPTO personnel should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material. When a computer program is claimed in a process where the computer is executing the computer program's instructions, USPTO personnel should treat the claim as a process claim. See paragraph IV.B.2(b), below. When a computer program is recited in conjunction with a physical structure, such as a computer memory, USPTO personnel should treat the claim as a product claim..

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-7, 9-16, and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandvoss et al (USPN 5745380) further in view of Hayes-Roth (USPN 6031549).

As to claim 1, Sandvoss teaches a computer readable medium having computer executable instructions for a bridge server in a multimedia conference to select one video stream from video streams of multiple participants of the multimedia conference for forwarding to a client, the steps comprising:

Defining a participant selection control parameter for the multi-media conference, said participant selection control parameter being used to tune the video switching stream behavior for multimedia conference; Receiving simultaneously multimedia conferencing data from the multiple participants, the multimedia conference data including a video stream from each of the participants (col 2, line s40-65) monitoring participant events of the multimedia conference said events associated with multimedia conferencing data of the participants, said participant events being generated in response to changes in the data information and the control information of the multimedia conferencing data (abstract; col 2, lines 52-65; col 5, lines 56-67) periodically computing a weight for each of the participants based on the activity state variable of said each participant (col 3, lines 1-13) identifying a participant having a highest weight among the participants (col 3, lines 1-13) and selecting from the video streams in the multimedia conferencing data received from the participants, one video stream corresponding to the identified participant having the highest weight for viewing by the client (abstract; col 3, lines 10-13)

However, Sandvoss does not explicitly indicate providing a participant state table indicating an activity state variable for each participant.



Hayes-Roth teaches providing a participant state table indicating an activity state variable for each participant (Fig37, col 23, lines 50-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Hayes-Roth into those of Sandvoss to make the system better organized. The system will execute more efficiently if all the data were to be gathered into one data structure rather than multiple ones.

As to claims 2 and 3, Sandvoss teaches wherein the multiple participants are connected to the bridge server through a multicast network and performing the step of transmitting to the client an audio stream containing a mixture of audio signals from the multiple participants of the network conference (col 2, lines 52 to col 3, line 13)

As to claims 4 and 5, Sandvoss teaches wherein the step of computing the weight includes determining whether said each participant is currently being shown to a client and determining a length of time from which said each participant has been shown to the client if said each participant is currently being shown (col 5, lines 56-67)

As to claim 6, Sandvoss teaches wherein the step of computing the weight includes determining whether said each participant is talking (col 5, lines 56-67)

As to claim 7, Sandvoss teaches wherein the step of computing the weight includes determining a length of time for which said each participant has not been shown to the client (col 6, lines 10-12).

As to claim 9, Sandvoss teaches wherein the multimedia streams include a combined video stream containing multiple substreams corresponding to one of the multiple participants and wherein the receiving comprises demuxing the combined video stream into a plurality of individual streams (Figs 3-5; col 2, line 40 to col 3, line 13)

Claims 10-16, 18, and 21-22 contain no further limitations above the rejected claims 1-7, and 9. Therefore, they are rejected under similar rationale.

As to claims 19 and 20, Sandvoss teaches the activity state tables comprising at least one of an indicator the participant is talking and the state tables include at least the weight and the participant events includes when a participant stopped sending audio (col 5, lines 56 to col 6, lines 12).

### *Response to Arguments*

9. Applicant's arguments filed have been fully considered but they are not persuasive. The applicant argues in substance that Sandvoss nor Hayes-Roth teach or disclose defining a participant selection control parameter for tuning the video switching stream behavior.... As was discussed in the rejections above, certain phrases within these limitations lack antecedent basis and are subject to non statutory subject matter. Thus, the claims have been given their broadest reasonable interpretation and Sandvoss in view of Hayes-Roth still meet the scope of the limitations as currently claimed.

### *Conclusion*

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2155

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Asad M. Nawaz whose telephone number is (571) 272-3988. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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